CRAGIST NEWSLETTER MAY/JUNE/JULY 1989 #4

CRAGIST
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CRAGIST: Cedar Rapids And Greater Iowa Sinclair Timex. First meeting January 19th 1986.

Between overtime for some of the members and the start of summer activities the meetings have been rather poorly attended. The next meeting will be August 27th, 1989.

Still receiving calls from the ad in the Collins Credit Union Buy and Sell:

T/S 2068 with 4 commercial programs, maybe for the T/S 1000, $50.00. Mark Potter, 1119 A. Avenue N. W., Cedar Rapids, IA 52405 Tele: 319 364-5674 Answering machine.

T/S 1000 and T/S 1016 Rampak no price mentioned. Jim Wehr, 3140 Stratford Lane S. W., Cedar Rapids, IA 52404 Tele: 319 396-7471.

T/S 1000 and rampak and 3 or 4 programs on tape David Shebroe, 1326 A. Avenue N. E., Cedar Rapids, IA 52402 Tele: 319 399-8794.

I was FORMATing some disks (I had bought a bulk package of 100 from MEI) on my T/S 2068 and Larken Disk Interface and had FORMATed a quantity with my 80 track drive and then started to use the 40 track drive and I was getting a lot of errors. Then when I tried to read the CAT on some the drive started to give garbage. So then I got out my box of spare drives and changed the 40 track drive to a TANDON 40 track and when I reFORMATed the disks that had errors I found no errors or very little. I will have to try the bad drive to see what the problem is, it could be a bad connection on the signal conector or it could be in the drive. I had been recently to the Collins Inventory Disposal Store and had looked over a bunch of Tandon 40 track drives and after inquiring (some drives had missing parts and all had cryptic notes on them) got six, as is, for $20. and I figured I could perhaps get at least one working drive out of the stack plus maybe more and I already had 3 Tandon drives that give read error. So I should have enough to enable me to tear into one without the cold sweats that I am destroying an expensive piece of equipment. And I received from a company that makes and sells equipment to test and align drives some literature that gave me more insight into disk drives. There are more things that can go wrong with disk drives than you can imagine. At $4000. to $5000. each I will not buy their tester/aliner since it would be more cost effective for me to throw away and buy new. But if you had to service several hundred drives a year then the machine would start to pay off. I figure it would take 80 to 100 drives at $50. each to make the purchase worth while. There would be a certain number of drives that would be beyond repair. Anyway, with the pile of drives I have I will have something to play with if and when I find time.

The return home of my wife also included my moving all my computer gear back into my corner of the basement and now I have two computer tables and hutches set up side by side and I will have to get the ZX81 going again. Seems that every little job

that I get involved in that seems like it should be a two minute job turns into a major production. (Or else I am getting super slow).

But I do have some time consuming projects I work on now and again. One of my projects is indexing the copies I made of articles on the T/S computers, in none T/S publications, (excluding the QL and the Z88) with cross references and the only way I can see to do it is to enter the information into a wordprocessor (MSCRIPT) and print it out. Since I have disk drives I can have a file and disk for each letter of the alphabet and split it when it gets too big. That is more of a winter project. I would use the Larken Sequential Random Access File Utiity except that I am still trying to digest the manual. I won't say that I am dense but I have to translate it (or something) so that I can figure out what is going on or what I should do to make this or that happen. It does make for frustrations. But once I do figure something out it stays figured out.

When I received a letter from Charles R. Byler of Ft. Meade, Md. stating that he had ordered a ZX81 Larken disk interface I got on the phone and talked to Larry and now I, also, have a ZX81 disk interface on order with delivery several months down the road. I have heard rumors that Larry Kenny is still working on some new and wonderfull stuff (an LED display for the ZX81?) for the T/S computers. We will have to wait and see. For those of you that don't know, Larry is working on his folks farm and once last fall his mother hollared to him as he came in with a load of corn when I called. With him farming comes first.

The following is by Tony Farrell:

A tip which might be of use to you if you have disk drive troubles, is to PEEK 100 on your system (T/S 2068 and Larken), also PEEK 101 and so on. On my system (ZX81) PEEK 14336 gives 175, PEEK 14337 gives 50. When my cable was faulty, (see later in this letter) PEEK 14336 gave 0 and PEEK 14337 gave 190. This told me that the computer was not reading/connected to the Larken EPROM properly. This might of of use if you run into problems.

Another reason for not writing for so long is that my disk drive crashed yet once again, but I am sure that it will not do so again. As you know it has crashed many times and each time I thought I had found the problem but I had not. This last time when it crashed, I was half way through this letter. I could tell it was a mechanical fault between the 64K RAM and the Larken board. If I PEEKed at the address of the Larken EPROM I could see the number change, when I touched the cable connecting the 64K RAM to the Larken board. I thought it must be the edge connector at the rear of the 64K RAM, so I took both RAM's in and had the fingers gold plated. Unfortunately when I took the boards in for plating, the tanks had not been switched on, and I had to wait a week before I could collect the boards. I tried to fit my other 64K RAM to the computer but its contents kept changing. I have known about this fault for several years but no one gave me any firm advice as to how to fix it. I could see just by looking at the RAM that something was wrong with it, because the circuit board was laid out to have "Decoupling capacitors" connected across every memory chip (8). But there were only three caps of 0.047uF fitted. So while I waited a

week for my RAM's to be plated I connected the CRO across the decoupling caps, and saw spikes of 300mV. I borrowed the "Memory Applications" data book from the library, and read that the caps should be 0.1uF each, one per chip, which should produce spikes less than 100mV. I had a packet of 100 ceramic caps of 0.047uF and fitted one across each chip. This produced spikes of 100mV which the book said was acceptable. I used the memory board for several hours and it did not fail, or change it's contents. I am so glad that I have got that board working properly. I hate having equipment that is faulty. According to the book, the caps have two purposes. One is to reduce the height of the spike, and also when the chip does a refresh cycle the cap has to supply the power for the refresh. The regulator is too far away to react fast enough to power the "Droop". You learn something every day.

Eventually my memories were finished, and I joyfully fitted them into my system. It crashed on power-up. To cut a long story short, the fault was NOT because the RAM connector had oxidized, but because Larken had used a edge connector that was wrong for the cable. I will draw a picture at the end of the letter showing the fault, but basically there was a hole at the bottom of the "V" where the wire fitted in. When the wire was in the hole, the wire was too small and could loose contact, which it did. He had glued closed the edge connector and I had to prise apart the connector to find the fault. The cure was to solder each of the 23 pins to the wire, inside the connector. I am happy to say that I have used the disk drive several times during the last three hours, and no crashes. Joy and Joy.! (See sketches)

The following is from Bill Jones of UPDATE in a letter to me dated May 5th:

Ran across some questions in one of your letters about LKDOS. These notes might help with LKDO and the 2068.

AUTOSTART program SAVE. (Hang this on the wall)

A. RANDOMIZE USR 102: GOTO X

B. Tune plays, touch "d" key. This AUTOSAVES the whole ram. "GOTO X" line number; a re - LOADed program tuns at line X - - you can leave this off.

4. To SAVE an AUTOSTART with minimum disk space used.

A. Poke 23731,PEEK 23731 - INT (FREE/256 - 1): POKE 23730,0

B. RANDOMIZE USR 102, touch "d".

a. "A" sets ram top down to have about 300 bytes of FREE The SAVE takes minimum disk space.

**C. The program, when AUTOBOOTed (LOADed) will have the same ram top setting. TOO LITTLE FREE to create data. The answer to "C" is to modify the program to be SAVEs for AUTOBOOT. Enter this in the "FIRST OPERATING LINE" of the program: Line # POKE 23730,87:POKE 23731,255. Now when you do step A thru B, the program SAVEs in the same manner. But when you AUTOLOAD it, the first line RUNS and RESETS ramtop to 65367, its normal resting place and you can generate DATA! End of Bill Jones notes.

I left to last my impressions of the CATS CAPITAL FEST, not because it was last in my memory but because I would have nothing to write to match what I felt about the FEST. I do not know who all were in involved in the details of organizing the FEST but Audrey G. Curnutt did a very well planned event. Of course her husband Robert M. Curnutt was also greatly involved.

This was the second FEST that I attended and so I do not have much to base this on but I saw nothing missing from CATS and their efforts as far as taking care of details. A standing ovation to Audrey Curnut for all her efforts and a tip of our hat to CATS for well done.

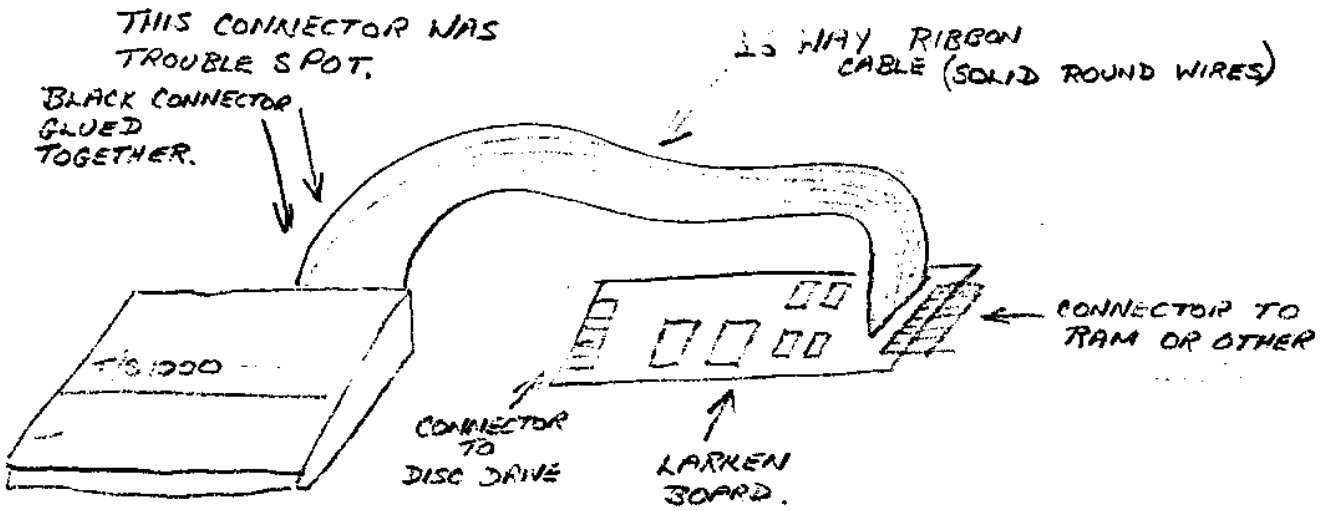
I thoroughtly enjoyed myself and the only tense time I had was at the Saturday night meeting when, perhaps, I got a trifle vocal about SNUG in the defense of SNUG. I do hope that it is not going to wither and die but there is a lack of information flowing from SNUG. But then I realize that the SNUG officers are spread out and some, if not all, are still in the work force so that does take time from SNUG affairs and perhaps more is being done with little time to get the information out to the members.

I heard that SMUG is seriously considering having a FEST in 1990 and already my wife is mentioned that she would like to go since we can go early and see Wisconsin. I will have to write SMUG and encourage them to have the FEST.

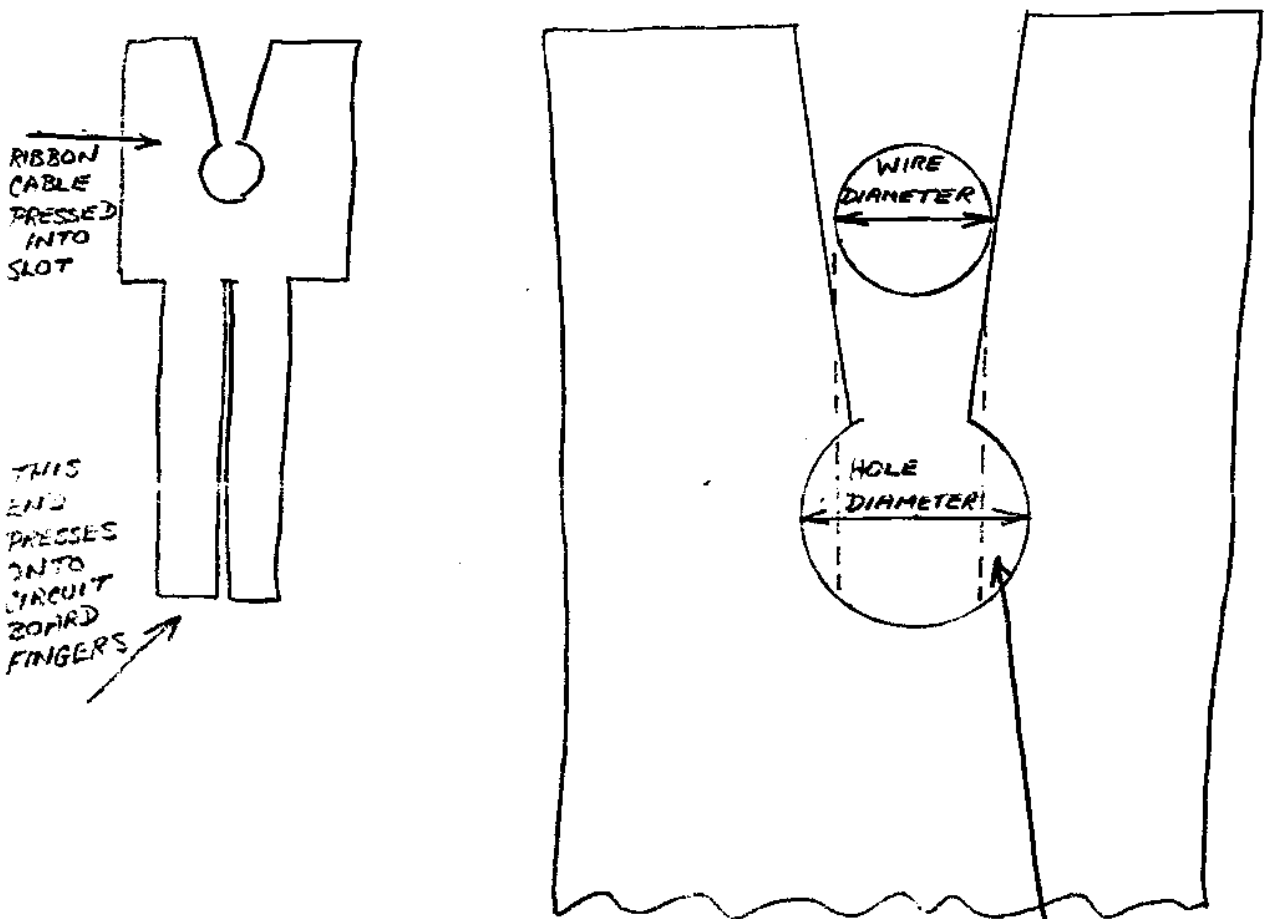
I do hope that SNUG will get a newletter started that will tie the T/S community together. There is action among the various individuals and there is still a small but loyal number that are still working with the ZX81 and developing and improving equipment, software and writing articles. And there is still a lot of equipment out there to be found like T/S 1000 and R/S 2068 that can be bought at extremely low prices. Yesterday, I bought a T/S 1000 with a T/S 1016 ram module and the ram module had an instruction sheet in French which I had never seen before. I paid $15.00 for the outfit so I could send it to my friend Tony (with the Zx81 Larken drive board) in Australia so that he could have a backup computer. And a friend in Australia found Tony a used T/S 2068 so I will try to supplu Tony with information and tapes. Surface mail is slow since it takes six to eight weeks for a package to arrive in Australia. And airmail costs $0.45 a half ounce so that makes you consider whether the contents are that timely.

This above paragraph was where the newsletter was to end, I had the pages all set up and was SAVEing to disk (Larken) when my drive started acting strange. As near as I could tell the drive motor wouldn't go, I did manage to SAVE the first three pages and then it completely balked. Logic said it was because the 12 volt regulator had overheated and shut off. After an overnight cool off the drives functioned again. And after retyping the information back in again I am back ready to try to finish the newsletter. However, now the drives power supply is shut off when I am not using them. Whether that will be a cure -- I had thought that the power supply should be adequately heat sinked to prevent that but maybe the 5 volt supply heats up the board enough to cause failure. I will have to take a look at the power supply and add heat sink grease and maybe a bigget heat sink if practical. Or add a fan since it does not have one. I am running blind on this - are the drives' power supply supposed to be shut off when you aren't actually using them? Logic says no but then my logic is not always right.

LARKEN CONNECTOR PROBLEM.


THIS CONNECTOR WAS TROUBLE SPOT.
BLACK CONNECTOR GLUED TOGETHER.
26 WAY RIBBON CABLE (SOLID ROUND WIRES)
CONNECTOR TO RAM OR OTHER
CONNECTOR TO DISC DRIVE
LARKEN BOARD.

GOLD PLATED CONNECTOR PIN



GAP BETWEEN WIRE AND CONNECTOR WAS PROBLEM. (APPROX 0·002")

LARKEN 2X81 DISK DRIVE INTERFACE PARTS PLACEMENT